ACKNOWLEDGEMENT

Words are literally insufficient for me to express my heart felt gratitude to Dr. Vinod Singh, under whose brilliant supervision I completed this research work. His most cheerful, simple and helping nature made me possible to achieve the goals of my research work. I am extremely grateful to him for the training he had offered me all these years for both academic and personality development.

I express my deep sense of gratitude to Professor R.P. Bajpai, who had taken special care to see that my research work is never hindered from the very first day of my arrival at Shillong. Apart from the excellent academic training, the encouraging and fruitful suggestions of Dr. Satish Kumar is gratefully remembered. I thank most warmly Dr. P.K. Bajpai, for his cheerful attitude and helpful suggestions all through these years. I thank Dr. (Mrs.) Debjani Roy and Dr (Miss) P. Nongkynrih for their constant encouragement and suggestions.

I am extremely grateful to Dr. Anis Alam at the Department of Biochemistry, who permitted me to work in his laboratory and devoted his valuable time for discussions and supervision, especially when Dr. Vinod Singh was out of station.

I am deeply indebted to Dr. Santosh Kar, Coordinator of Centre for Biotechnology, JNU, New Delhi, for permitting me to work in his laboratory for a long period and for the time he has spent for me for suggestions and guidance.

I am thankful to Dr. Victor Rebois of NIH, USA, for his generous gift of Mouse leydig tumor (MLTC-1) cells.
I am grateful to Dr. Harishchandra, Dr. B.B.P. Gupta, for their valuable comments about my research work.

I remember Mr. M. Kiran, my friend at JNU, New Delhi, as a rare blend of knowledge and kindness. It was alone his extreme helpful and inspiring nature that made my long stint at JNU, New Delhi very happy.

The affectionate concern of Prof. M.A. Sudhir, Prof. P. Gokulanathan, Dr. Y.S. Jain, Dr. P.N. Ram, Dr. M.K. Parida, Dr. Sameer Durani, Mr. Rajiv Kalra, Mr. Parthasarathi Adak, Mr. Nasirul Alam and experts of Waters India Ltd. are gratefully acknowledged.

I am deeply indebted to my friends, Mr. K.M. Dhananjayan, Mr. C.K. Anil Kumar, Mr. C.K. Mathew, Dr. B.G. Mathew, Mr. Shaji N. George, Mr. P. Divakaran and Mr. Wilfred for their help and encouragement during these years.

NEHU administrative Staff members Mr. R.C. Chyne, Mr. R.S. Choudhary, Mr. C.K. Singha, and Mr. Kushal Sinha, Mr. P. Unmirajian are gratefully remembered for their extreme helpful and kind nature.

I specially mention Miss. Jayati Sengupta, my colleague for her help during these years and especially at the time of preparation of thesis. Also I express my heart felt gratitude to my colleagues Mr. Vijay Kumar Sharma, Mr. Paul Sansan Dkhar, Mr. James Haorei, Mr. Biswajit Paul, Dr. (Mrs) Anjana Munshi, Mr. V.A. Sivadasan, Mr. Amerandar Sharma, Miss. Bijoy Lakshmi Borah, Miss. Priyoasha Chingakham and Miss. Bakor for their extreme helpful nature.
I am extremely grateful to Mr. Bruhaspathy, Mr. Sarat K. Dalai, Dr. Arshad Jilani and Miss. V. Radha at the Centre for Biotechnology, JNU, New Delhi for their help and suggestions.

It is my pleasure to express my heart felt gratitude to Mr. N. Bhattacharjee, Mr. N.S. Nongkynrih, Mr. Tarun K. Rakshit and Mr. T. Warjri and Mrs. Malina Wahlang for the help they offered me during the research work.

The financial assistance offered to me in the form of Junior and Senior Research Fellowships of the Council of Scientific and Industrial Research (CSIR), New Delhi is gratefully acknowledged.

I am extremely grateful to Mrs. Manju Singh for her constant encouragement and bless all through these years. In fact, many a times of distress during my stay at Shillong, Dr. Vinod Singh and his family members came as a savior to me. I sincerely express my gratitude and respect to them.

I am extremely grateful to Mr. T.H. Badwar and family who had offered me a very comfortable stay at their residence during my research work.

I remember my Parents, brothers, sister and sister in-law for their constant prayer for me, which made me optimistic in my career.

And as the moment demands, I pray and thank GOD who made me fit for this effort.

Dated 14 December, 1994

ANIL KUMAR MAVILA